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*ETHNOBOTANICAL STUDIES IN NORTHWEST AND TRANS-HIMALAYA VI. CONTRIBUTION TO THE ETHNOBOTANY OF BASOHLI-BANI REGION, J & K, INDIA

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ABSTRACT

The article deals with some aspects of ethnobotany of "Pahari" community living in Basohli-Bani region of Jammu and Kashmir State ; it had so far remained unrecorded due to inaccessibility of the area. A combination of sub-tropical and temperate climate has considerable effect on its vegetation and also the inhabitants. The uses of 39 plant species are recorded in this communication. Yams are of common occurrence in this region and are reputed not only as edible but also in home remedies against swellings due to sprains or wounds. The medicinal uses of *Rosularia alpestris* and *Viburnum grandiflorum* are reported for the first time.

INTRODUCTION

During the last two decades, several tribal localities of India have been explored from ethnobotanical view-point by a number of workers (Jain, 1963, 1981 ; Jain and De, 1964 ; Bedi, 1978 ; Jain and Borthakur, 1980 ; Joshi, 1982 and Pushpangadan and Atal, 1984). These studies have brought to light numerous edible, medicinal and other useful plants which are earlier unknown to scientific world. The Jammu and Kashmir State being rich in indigenous herbal resources, offers a great scope for ethnobotanical studies. The only existing reports of this region are those of Kachroo and Nahvi, 1976 ; Srivastava *et al.*, 1980, 1982 ; Koul *et al.*, 1982 a, b ; Dar *et al.*, 1984 ; Vir Jee *et al.*, 1984 ; Kaul and Singh, 1985 and Kaul *et al.*, 1985, 1986. The hilly forest area in Basohli tehsil is botanically underexplored. It is inhabited by a class of people generally referred as "Paharis", having their own dialect, culture, beliefs, religious rites and practices. The nomadic tribes like Gujjars and Bakarwals also migrate to this area during summer months in search of pastures for their livestock. This entire belt remained underexplored because of lack of proper communication. Several parts of this region even today, are not easily accessible.

Keeping in view the significance of ethnobotanical studies to discover new and potential sources of forest products, new drug plants etc., it is considered necessary to collect information about the traditional uses of plants by the "Paharis" and other nomadic tribes before it is forgotten or permanently lost.

GEO-CLIMATE OF THE AREA

Basohli forms one of the largest Tehsils of district Kathua and lies between 32°24′ to 32°50′ N and 75°33′ to 75°55′ E. It is bordered in the north by District Doda, in the east by Himachal Pradesh and in the west by Tehsil Billawar of District Kathua (*see* map). The Tehsil has a total geographical area of 86216 ha, out of which 36347 ha are under forests and only 16418 ha are under cultivation (Anonymous, 1977). The area receives an average annual rainfall of about 3600 mm.

Bani region is a part of Tehsil Basohli. It

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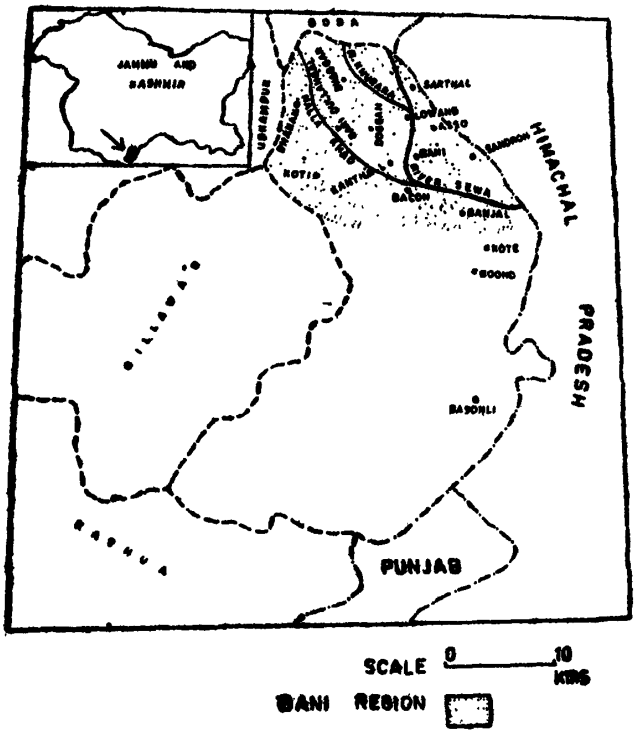
lies between 32°39′ to 32°50′ N and 75°39′ to 75°54′ E. The mean elevation throughout the region ranges from 1500 to 2700 m. The entire area comprises of about 30 villages with a total population of sixty thousand. Bani region is accessible only through trekking over high altitude passes. Although, the climate of the area is not very severe, the region remains cut off from rest of the district during winter months.



Map showing Basohli-Bani region.

METHOD OF STUDY

Frequent field trips were undertaken in order to gather the information. Various interviews were conducted with elderly persons, traditional herbalists, ojhas (Physician practising witchcrafts), household ladies and chieftains belonging to nomadic tribes for information on food habits, herbal medicines and their administration. The information regarding the use of other economic plants was also collected. Repeated queries were made to verify the data.

The plants were identified and preserved in the Herbarium, Regional Research Laboratory (Branch), Srinagar (Kashmir).

ETHNOBOTANICAL OBSERVATIONS

The text comprises ethnobotanical information on 39 plant species :

Edible plants : Seven plant species are known to be used as edibles in Basohli-Bani region. Among them, 3 are used as edible greens ; 2 as edible underground tubers and 2 as edible fruits. Details about their processing are listed in Table 1. Yams are commonly used in this region. The "Paharis" collect tubers of *Dioscorea* spp. from the surrounding areas either in June (at sprouting stage) or in October (at dormant stage). The tubers have dual significance. They are used as vegetable as well as medicine. Among the wild fruits, *Rubus ellipticus* is considered to be excellent. *Fagopyrum cymosum* comes as weed in this area and its leaves and shoots are largerly relished as vegetable.

Tea-substitutes : The various plant species traditionally used as substitutes for the conventional tea plant (*Camellia sinensis*) have already been reported by us (Kaul *et al.*, 1986). However, during present investigation, it is found that bark of *Abies pindrow* is used as substitute for tea leaves at times of scarcity. On boiling, the dry bark yields decoction deep reddish in colour. But the beverage is considered inferior as it does not give pleasant odour.

Fodder and toxic plants : Bani region is considered as one of the best places by the nomadic tribes for grazing the livestock. It is, therefore, worthwhile to note the plants used as fodder by them (Table 2). At lower elevations, leaves of *Butea monosperma, Cordia myxa* and *Grewia oppositifolia* are preferred. However, at higher elevations, the common plants used as fodder are : *Acer caesium, Aesculus indica* and *Quercus* spp. It is worthwhile to note the toxic effects of certain wild plants when used as fodder. For instance leaves of *Bombax ceiba* are used as fodder at times of scarcity. But such a fodder causes anuria in buffaloes. Further, leaves or shoots of *Ageratum conyzoides* are always avoided from the fodder by the Gujjars and Bakarwals. As per their information, *A. conyzoides* causes anuria, flatulance and anorexia in cattle particularly buffaloes.

Fibre plants : Two plants are exploited for fibre extraction. They are *Grewia oppositifolia* and *Girardinia diversifolia.* Both the plants are found commonly in Basohli-Bani region and their fibre is used to make ropes and for weaving cots. Dry twigs of *Grewia oppositifolia* are immersed in stagnant water for a period of two months. After this duration, the twigs are taken out and the fibre is peeled off. It is thoroughly washed in water and then dried. Mature and straight twigs of *Girardinia diversifolia* are also processed in the same manner as described above, except that the twigs are kept in water only for 3-4 days. The rope made from fibre of *Grewia oppositifolia* is considered to be superior and more durable than that of *Girardinia diversifolia.* Other details of fibre plants are mentioned in Table 2.

Ethnomedicinal plants : Only those plants which are commonly used by the nomadic tribes and "Paharis" of Basohli-Bani region are described here. Information regarding their local names, processing and administration are listed in Tables 3 and 4. *Rosularia alpestris* and *Viburnum gradiflorum* are reported for the first time as medicinal plants. The other listed plants, although already known as medicinal plants, have different modes of administration. Some of them are even claimed to possess new unrecorded ethnomedicinal properties.

It has been noticed that home-remedies are quite common in this area. Some common diseases cured by home remedies include skin infections, cough, abdominal pain, joint swelling etc. In this context, the use of *Dioscorea* tubers is noteworthy. About 90% cases having swollen joints are being treated by the simple washing of the joints with water extract of the tubers. Many a times 2 or 3 different plants or their parts are mixed together in order to prepare a medicine or drink. Such plants generally have a cumulative effect to treat a particular disease. The use of young leaves of *Vitex negundo* along with gur (unrefined cane sugar) against abdominal pain is quite effective. Similarly, the skin diseases are generally cured by the paste made by crushing young shoots and leaves of *Chenopodium ambrosioides* and seeds of *Piper nigrum* mixed with mustard oil.

Table 1 : Substitutes for Tea Leaves, Dyes, Vegetables and Fruits used by "Paharis".

Botanical name with family	Vernacular name	Remarks
Abies pindrow Royle (Pinaceae)	Budhal	Stem bark is used as substitute for tea leaves.
Dioscorea melanophyma Burkill & Prain (Dioscoreaceae)	Suadhu	The spherical tubers are edible. Before cooking the tubers are thoroughly boiled in water.
Dioscorea pentaphylla L. (Dioscoreaceae)	Suadhu	The elongated and pear-shaped tubers are edible and similarly processed as above.
Fagopyrum cymosum Meissn. (Polygonaceae)	Faffru	Leaves and young shoots are relished as vegetable.
Gonatanthus spp. (Araceae)	Rabru	Long petioles are peeled off and then cut into small cylindrical pieces, fried and put in curry for rendering sour taste.
Pyrus pashia Ham. (Rosaceae)	Kenth	Black pear-shaped fruits are edible. They are sweet in taste.
Rubus ellipticus Smith (Rosaceae)	Aakhre	Yellowish ripe fruits are edible. They are sweet and highly palatable.
Urtica parviflora Roxb. (Urticaceae)	Sadhar	Young shoots and leaves are used as vegetable.
Woodfordia fruticosa Kurz. (Lythraceae)	Thai	Flowers have nectar. They also provide a red dye for clothes.

Table 2 : List of Fodder and Fibre Plants used in Basohli-Bani Region.

Botanical name with family	Vernacular name	Remarks
Aesculus indica (Colebr. ex Camb. Hook). (Hippocastanaceae)	Guen	Leaves used as fodder.
Acer caesium Wall. (Aceraceae)	Kinar	Leaves used as fodder.
Ageratum conyzoides L. (Asteraceae)	Putena-jare	A toxic plant. Leaves and shoots when used as fodder cause anuria, flatulance and anorexia.
Bombax ceiba L. (Bombacaceae)	Simbel	A toxic plant. Leaves used as fodder at times of scarcity.
Butea monosperma (Lam.) Taub. (Fabaceae)	Palah	Leaves used as fodder.
Cordia myxa Linn. (Boraginaceae)	Lasora	Leaves used as fodder.
Girardinia diversifolia (Link) Friis (Urticaceae)	Bade-Sadhar	Stem fibre used to make ropes.
Grewia oppositifolia Roxb. (Tiliaceae)	Dhamen	Leaves and young twigs are commonly used as fodder. Fibre from twigs is used to make ropes for weaving cots.
Quercus sp. (Fagaceae)	Irri	Leaves used as fodder.

Table 3 : Common Ethnomedicinal Plants used in Basohli-Bani Region.

Botanical name with family	Vernacular name	Preparation/administration
**Ajuga bracteosa* Wall. (Lamiaceae)	Rakat-mundi	Fresh root is chewed to purify blood. Poultice of leaves is used to cure eruptions and fissures on skin.
**Asphodelus tenuifolius* Cav. (Liliaceae)	Puguat	Fresh triangular seeds are crushed and the poultice is applied on the skin to treat eczema and scabies.
**Barleria cristata* L. (Acanthaceae)	Zakham-alijade	Poultice of young leaves heals wounds. The poultice acts like sticker and can be removed only when the wound gets cured.
Bergenia ciliata (Haw.) Sternb. (Saxifragaceae)	Sapdotary	Bark of the root is removed and the remaining part is cut into small pieces, dried and powdered. A pinch of powder is taken with cold water before breakfast. It is said to cure cough and internal injuries or wounds.
Butea monosperma (Lam.) Taub. (Fabaceae)	Palah	Decoction of flowers is given for urinary problems. They are diuretic in nature. Gum extracted from *B. monosperma* is locally known as "Kamar-Kash". The gum is fried in ghee and generally given to pregnant women. This is said to provide energy and also strength to joints.
Carica papaya L. (Caricaceae)	Rukh-kakare	Cultivated. Milky latex is applied on skin to cure eczema.
Chenopodium ambrosioides L. (Chenopodiaceae)	Dadar-ali-jade	Young shoots and leaves are made into poultice with mustard oil. Powder of *Piper nigrum* seed is also added in the poultice. This cures eczema and other skin ailments.

Table 3 : Contd.

Botanical name with family	Vernacular name	Preparation/administration
Colebrookea oppositifolia Sm. (Lamiaceae)	Suale	Fresh leaves are slightly fried in ghee and wrapped around the forehead. This gives relief from headache.
Dioscorea melanophyma Burkill & Prain (Dioscoreaceae)	Suadhu	Tubers are first thoroughly washed and then boiled in water. The extract is allowed to cool and is used to wash the inflated and painful parts, especially of the legs. This home remedy is very popular in Basohli-Bani region.
Dioscorea pentaphylla L. (Dioscoreaceae)	Suadhu	Tubers are processed as described above and also used for similar ailments.
**Lyonia ovalifolia* (Wall.) Drude (Ericaceae)	Ownn	A very poisonous plant. Leaf juice is used as an antidote for snake bite.
Nerium indicum Miller (Apocynaceae)	Ban-gandira	Cultivated. Fresh root is fried in butter ; the latter is effective against eczema and scabies.
Ocimum basilicum L. (Lamiaceae)	Niazpoo	Juice of fresh leaves cures redness and rashes of eyes.
Ricinus communis L. (Euphorbiaceae)	Aren	Young leaves are fried in ghee and are warpped over abdomen. This cures abdominal pain. Seed oil is used against rheumatic pain.
**Rosularia alpestris* (Kar. & Kir.) Boriss. (Crassulaceae)	Chroari	Poultice of whole plant is applied to cure skin burns.
Thymus serpyllum L. (Lamiaceae)	Marchary	Fresh leaves are either chewed as such or made into poultice and applied on gums and teeth. This is said to cure tooth infection and also purify blood.
Valeriana jatamansi Jones (Valerianaceae)	Balla	Poultice of leaves and roots is applied on forehead to cure headache. This is also said to have cooling effect.
**Viburnum grandiflorum* Wall. ex DC. (Sambucaceae)	Talaanj	Poultice of young rootlets is applied on the surface of snakebite. Also root poultice is given with luke warm milk to stop further spreading of poison.

*New Ethnomedicinal properties.

Table 4 : Plant Combinations of Ethnomedicinal Value

Botanical name with family	Vernacular name	Part used	Remarks
Aegle marmelos (L.) Corr. (Rutaceae)	Bil-patre	Leaves	Leaves of these species are slightly fried in ghee and applied on joints. They are said to cure arthritis.
Murraya koenigii Spreng. (Rutaceae)	Gandla	Leaves	
Vitex negundo L. (Verbenaceae)	Banna	Leaves	
Trachyspermum ammi (L.) Sprague (Apiaceae)	Ajwain	Seeds	These are ground with gur and made into small tablets. When taken with hot water, it cures abdominal pain. Sweating sensation is the symptom of relief.
Vitex negundo L. (Verbenaeeae)	Banna	Leaves	
Cinnamomum spp. (Lauraceae)	Chaander	Leaves	Extract of these three plant parts when taken with salt/or sugar is said to cure badcold & mild fever. Sweating is the symptom of relief. It is also said to give relief from backache.
Taxus baccata L. (Taxaceae)	Brahame	Bark	
Thymus serpyllum L. (Lamiaceae)	Marchary	Leaves	

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REFERENCES

ANON. District Statistical Handbook-Kathua. Directorate of evaluation and statistics. Planning and Development Department, Government of Jammu and Kashmir, 1977.

BEDI, S. J. Ethnobotany of Ratan Mahal Hills, Gujarat, India. *Econ. Bot.* 32 : 278-284. 1978.

DAR, G. H., VIR JEE, P. KACHROO AND G. M. BUT. Ethnobotany of Kashmir-I. Sind Valley. *Journ. Econ. Tax. Bot.* 5 : 668-675. 1984.

JAIN, S. K. Studies in Indian Ethnobotany-Plants used in medicine by the tribals of Madhya Pradesh. *Bull. Reg. Res. Lab., Jammu* 1 : 126-128. 1963.

—— (Ed.) Glimpses of Indian Ethnobotany. Oxford and IBH Publishing Co., New Delhi. 1981.

—— AND J. N. DE. Some less known plant foods among the tribals of Purulia (West Bengal). *Sci. & Cult.* 30 : 285-286. 1964.

—— AND S. K. BORTHAKUR. Ethnobotany of the Mikirs of India. *Econ. Bot.* 34 : 264-272. 1980.

JOSHI, P. An ethnobotanical study of Bhils-a preliminary survey. *Journ. Econ. Tax. Bot.* 3 : 257-266. 1982.

KACHROO, P. AND I. M. NAHVI. Ethnobotany of Kashmiris. In : Forest Flora of Srinagar. Bishen Singh Mahendra Pal Singh, Dehradun. 1976.

KAUL, M. K. AND V. SINGH. Interesting Himalayan wild edibles of ethnobotanic significance : 1-Himalayan nettles with mettle. *Sci. & Cult.* 51 : 381-382. 1985.

——, A. K. BHATIA AND C. K. ATAL. Ethnobotanic studies in Northwest and Trans-Himalaya—contribution to the wild food plants of Ladakh. *Journ. Econ. Tax. Bot.* 6 : 523-527. 1985.

——, P. K. SHARMA AND V. SINGH. Ethnobotanic studies in Northwest and Trans-Himalaya IV. Some traditionally used tea substitutes from J & K. *Himalayan Plant Journal* 4 : 23-28. 1986.

KOUL, A. K., J. L. KARIHALOO, I. AHMAD AND H. KIRN. Some noval tea substitutes from Kashmir. *Indian Forester* 108 : 310-313. 1982a.

——, ——AND I. A. HAMAL. Wild edible plants of Kashmir-some less known vegetable substitutes and beverages. *Bull. Bot. Surv. India* 24 : 67-69. 1982b.

PUSHPANGADAN, P. AND C. K. ATAL. Ethnomedico-Botanical investigations in Kerala-I. Some paimitive tribals of Western Ghats and their Herbal medicine. *Journ. Ethnopharmacology* 11 : 59-77. 1984.

SHRIVASTAVA, T. N., N. N. PATHAK AND S. M. S. HUSSAIN. Medicinal plants of Kailash (Jammu and Kashmir). *Bull. Med. Ethno. Res.* 1 : 145- 165. 1980.

——, ——, O. P. GUPTA AND D. P. BADOLA. An exploration of medicinal plants of Udhampur (J & K) Forest Division 1. *Ibid.* 2 : 1-22. 1982.

VIR JEE, G. H. DAR, P. KACHROO AND G. M. BHAT. Taxo-ethnobotanical studies of the rural areas in District Rajouri (Jammu). *Journ. Econ. Tax. Bot.* 5 : 831-838. 1984.